

Mineral Industry Surveys

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SILICON IN SEPTEMBER 2001

In September, domestic shipments and production of silicon ferroalloys plus metal, excluding silvery pig iron, were estimated to have increased by about 2% and 18%, respectively, compared with the corresponding figures for the prior month, according to the U.S. Geological Survey. Total producer stocks were estimated to have decreased about 6%, the fifth successive month of a stocks decline. These comparisons are with monthly totals that have been revised downward from those published in this report for August 2001. The revisions all were decreases for silicon metal—about 1,000 metric tons (t) for shipments, 3,000 t for gross production, and 2,000 t for stocks.

The August trade data included in this report indicate that the volume of imports of 75% ferrosilicon (55% to 80% silicon, Other) was nearly triple that for July. More than three-fourths of imports for August in this category were accounted for by those received from, in descending order, Venezuela, Ukraine, and Kazakhstan. Trade data for September were unavailable at the time of publication and will be included in a subsequent report.

Dow Corning Corp. started production at a new 16,000-metric-ton-per-year organosilane unit at its Midland, MI, plant.

The main product of this unit will be so-called rubber silanes that allow silica to replace carbon black in “green” tires (Westervelt, 2001).

Update

In an article on ferrosilicon facilities in countries of the former Soviet Union, types and capacities of electric furnaces for producing ferrosilicon are given for Kazakhstan (Aksu), Russia (Chelyabinsk, Kuznetsk, Novolipetsk, and Serov), and Ukraine (Stakhanov and Zaporozh'ye), along with figures for production for 1999 (Snitko and Zhilyakov, 2001).

Published prices for silicon-based commodities are listed below. The effective date of each price is the latest given by the source for the week listed (Wednesday date) below.

References Cited

- Snitko, Yu.P., and Zhilyakov, S.S., 2001, [Status of ferrosilicon production]: *Elektrometallurgiya*, no. 2, p. 29-35. [In Russian.]
Westervelt, Robert, 2001, Dow Corning starts production at organofunctional silanes plant: *Chemical Week*, v. 163, no. 39, October 24, p. 12.

	<u>Prices, cents per pound, silicon content</u>		
	<u>50% Ferrosilicon¹</u>	<u>75% Ferrosilicon²</u>	<u>Silicon Metal²</u>
September 5	40.0-42.5	30.0-31.5	49.0-52.5
September 12	40.0-42.5	30.0-31.5	49.0-52.5
September 19	40.0-42.5	30.0-31.0	49.0-52.0
September 26	40.0-42.5	30.0-31.0	49.0-52.0

¹Source: Ryan's Notes, North American transaction price.

²Source: Platts Metals Week, dealer import price.

TABLE 1
U.S. PRODUCTION, SHIPMENTS, AND PRODUCER STOCKS OF SILICON ALLOYS AND METAL IN 2001 1/ 2/ 3/

(Metric tons)

Material	Gross production 4/		Net shipments		Stocks, September 30
	September	Year to date	September	Year to date	
Ferrosilicon:					
25%-55% silicon 5/	13,100	124,000	9,090	95,100	33,600
56%-95% silicon	5,880	64,000	5,710	59,200	24,500
Silicon metal:					
Excludes semiconductor grades	10,100	106,000	9,910	104,000	5,380

1/ Data are rounded to no more than three significant digits.

2/ Includes U.S. Geological Survey estimates.

3/ Data for silvery pig iron (less than 25% silicon) withheld to avoid disclosing company proprietary data.

4/ Includes in-plant consumption, as in production of magnesium ferrosilicon and other miscellaneous alloys.

5/ Includes miscellaneous silicon alloys.

TABLE 2
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN AUGUST 2001 1/ 2/

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Ferrosilicon:						
More than 55% silicon:						
Australia	--	--	--	1	1	\$5,000
Belize	--	--	--	87	52	69,600
Brazil	--	--	--	132	79	106,000
Canada	364	219	\$227,000	2,390	1,440	1,650,000
Germany	--	--	--	4	2	3,000
Italy	--	--	--	368	211	239,000
Jamaica	3	2	2,610	3	2	2,610
Malaysia	--	--	--	15	11	27,400
Mexico	151	90	119,000	1,120	703	905,000
Total	518	311	349,000	4,120	2,500	3,010,000
Other ferrosilicon:						
Canada	645	323	430,000	4,310	2,160	2,740,000
China	--	--	--	619	310	1,260,000
Germany	33	17	51,100	150	78	234,000
India	--	--	--	770	380	1,330,000
Japan	158 3/	14 3/	364,000 3/	3,400	341	7,710,000
Korea, Republic of	179	90	211,000	2,170	1,070	3,020,000
Malaysia	18	4	21,900	90	40	113,000
Mexico	15	7	17,900	431	216	527,000
Taiwan	--	--	--	510	252	1,080,000
United Kingdom	--	--	--	660	317	501,000
Other (5 countries)	54	28	86,000	155	79	204,000
Total	1,100	483	1,180,000	13,300	5,240	18,700,000
Total ferrosilicon	1,620	794	1,530,000	17,400	7,740	21,700,000
Metal:						
More than 99.99% silicon:						
Belgium	8	XX	186,000	67	XX	1,590,000
China	26	XX	725,000	252	XX	7,100,000
France	3	XX	111,000	97	XX	2,650,000
Germany	29	XX	1,550,000	170	XX	7,680,000
Italy	11	XX	821,000	60	XX	4,750,000
Japan	78	XX	4,780,000	2,270	XX	115,000,000
Korea, Republic of	(4/)	XX	48,500	226	XX	9,380,000
Netherlands	12	XX	339,000	33	XX	895,000
Taiwan	3	XX	94,800	57	XX	1,700,000
United Kingdom	6	XX	980,000	58	XX	7,640,000
Other (35 countries)	19	XX	1,760,000	208	XX	15,300,000
Total	195	195 e/	11,400,000	3,500	3,500 e/	174,000,000

See footnotes at end of table.

TABLE 2--Continued
U.S. EXPORTS OF FERROSILICON AND SILICON METAL IN AUGUST 2001 1/ 2/

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal--Continued:						
99.00% - 99.99% silicon:						
Belgium	--	--	--	73	72	\$103,000
Denmark	--	--	--	25	25	35,200
France	4	4	\$5,590	48	48	68,300
Germany	--	--	--	26	26	74,200
Japan	--	--	--	58	57	84,100
Korea, Republic of	--	--	--	23	22	45,800
Mexico	--	--	--	82	81	70,000
Norway	68	67	95,700	330	327	465,000
Taiwan	--	--	--	27	27	37,800
United Kingdom	--	--	--	89	88	128,000
Other (11 countries)	1	1	4,900	48	48	112,000
Total	73	72	106,000	828	821	1,220,000
Other silicon:						
Australia	7	7	9,250	59	57	77,500
Canada	97	94	129,000	1,340	1,300	1,740,000
Denmark	--	--	--	82	79	108,000
Germany	4	4	5,800	1,150	1,120	1,520,000
Japan	13	13	136,000	58	57	220,000
Korea, Republic of	43	42	56,600	182	176	424,000
Mexico	143	139	291,000	684	664	1,650,000
Netherlands	--	--	--	333	324	440,000
Philippines	--	--	--	95	92	125,000
United Kingdom	39	37	41,200	264	256	378,000
Other (20 countries)	16	16	58,700	204	198	433,000
Total	362	352	727,000	4,450	4,320	7,120,000
Total silicon metal	630	619	12,200,000	8,780	8,640	182,000,000

e/ Estimated. XX Not applicable. -- Zero.

1/ Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top ten countries.

2/ Data are rounded to no more than three significant digits; may not add to totals shown.

3/ All or part of these data have been referred to the U.S. Census Bureau for verification.

4/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN AUGUST 2001 1/ 2/

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Ferrosilicon:						
55% - 80% silicon, over 3% Ca:						
Argentina	--	--	--	51	44	\$57,700
France	18 3/	3 3/	\$28,700 3/	108	62	172,000
Total	18	3	28,700	159	106	230,000
55% - 80% silicon, Other:						
Canada	977	748	595,000	5,430	4,100	3,280,000
Iceland	3,230	2,420	1,520,000	10,200	7,860	4,820,000
Kazakhstan	4,630	3,500	1,880,000	4,630	3,500	1,880,000
Lithuania	--	--	--	9,520	7,290	5,000,000
Macedonia	--	--	--	2,590	1,970	1,190,000
Norway	132	96	177,000	28,100	19,800	17,400,000
Russia	--	--	--	3,060	2,360	1,410,000
South Africa	--	--	--	9,670	6,960	4,690,000
Ukraine	5,370	4,030	2,490,000	15,200	11,400	7,360,000
Venezuela	6,320	4,740	3,450,000	16,800	10,800	9,350,000
Other (8 countries)	451	303	660,000	4,040	2,620	6,400,000
Total	21,100	15,800	10,800,000	109,000	78,600	62,700,000

See footnotes at end of table.

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN AUGUST 2001 1/ 2/

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Ferrosilicon--Continued:						
80% - 90% silicon:						
Germany	--	--	--	80	68	\$80,000
Norway	--	--	--	241	197	225,000
Total	--	--	--	322	265	305,000
Magnesium ferrosilicon:						
Argentina	340	163	\$279,000	1,030	434	757,000
Brazil	134	65	111,000	3,120	1,400	2,170,000
Canada	57	27	73,900	152	72	181,000
China	--	--	--	5,440	2,570	4,480,000
Germany	--	--	--	3	2	13,800
Japan	--	--	--	77	34	167,000
Norway	1,040	481	836,000	6,330	2,920	5,390,000
Total	1,570	736	1,300,000	16,200	7,440	13,200,000
Other ferrosilicon:						
Brazil	--	--	--	210	101	191,000
Canada	500	162	394,000	6,910	2,280	5,380,000
Germany	--	--	--	20	3	15,400
Japan	--	--	--	94	48	154,000
Norway	--	--	--	40	6	34,400
South Africa	20	3	15,000	114	19	116,000
Ukraine	54	26	23,900	157	76	73,100
Total	575	192	433,000	7,540	2,530	5,960,000
Total ferrosilicon	23,300	16,800	12,500,000	133,000	88,900	82,400,000
Metal:						
More than 99.99% silicon:						
China	(4/)	XX	33,200	(4/)	XX	69,800
Denmark	1	XX	140,000	3	XX	712,000
Germany	20	XX	2,520,000	275	XX	28,600,000
Italy	(4/)	XX	53,100	146	XX	7,360,000
Japan	26	XX	610,000	359	XX	9,730,000
Korea, Republic of	3	XX	93,600	118	XX	1,310,000
Malaysia	--	XX	--	1	XX	62,900
Mexico	(4/)	XX	4,320	1	XX	8,100
Poland	4	XX	27,100	4	XX	27,100
Taiwan	13	XX	86,300	18	XX	164,000
Other (5 countries)	(4/)	XX	5,990	1	XX	76,800
Total	69	69 e/	3,570,000	927	927 e/	48,200,000
99.00% - 99.99% silicon:						
Argentina	620	615	598,000	1,060	1,050	1,020,000
Brazil	360	357	407,000	13,100	13,000	16,900,000
Canada	553	549	696,000	4,190	4,160	5,280,000
China	120	119	96,400	530	526	434,000
Korea, Republic of	120 3/	119 3/	96,600 3/	524	521	415,000
Norway	440	436	610,000	3,370	3,330	4,870,000
Russia	1,390	1,380	1,810,000	7,840	6,520	9,470,000
Saudi Arabia	--	--	--	1,000	993	968,000
Spain	1,000	991	1,000,000	1,000	991	1,000,000
South Africa	3,140	3,120	3,540,000	19,400	19,300	21,500,000
Other (3 countries)	89 3/	88 3/	140,000 3/	248	239	643,000
Total	7,840	7,780	8,990,000	52,300	50,600	62,500,000

See footnotes at end of table.

TABLE 3--Continued
U.S. IMPORTS FOR CONSUMPTION OF FERROSILICON AND SILICON METAL IN AUGUST 2001 1/ 2/

(Metric tons, unless otherwise specified)

Country	Gross weight	Contained weight	Value	Year to date		
				Gross weight	Contained weight	Value
Metal--Continued:						
Other silicon:						
Belgium	--	--	--	149	29	\$214,000
Canada	723	708	\$866,000	7,030	6,890	8,700,000
China	266	262	190,000	1,560	1,540	1,170,000
Germany	40	39	39,100	225	217	259,000
Korea, Republic of	--	--	--	1,680	1,650	1,490,000
Russia	2,800	2,740	2,490,000	10,500	10,100	9,500,000
Saudi Arabia	--	--	--	80	79	77,200
South Africa	1,660	1,630	1,550,000	4,560	4,420	3,880,000
United Arab Emirates	196 3/	193 3/	198,000 3/	196	193	198,000
United Kingdom	38	37	50,400	189	186	252,000
Other (2 countries)	41	40	40,300	44	42	55,000
Total	5,760	5,650	5,420,000	26,200	25,300	25,800,000
Total silicon metal	13,700	13,500	18,000,000	79,400	76,900	136,000,000

e/ Estimated. XX Not applicable. -- Zero.

1/ Presentation of monthly data is based on the year-to-date quantities (gross weight) of the top ten countries.

2/ Data are rounded to no more than three significant digits; may not add to totals shown.

3/ All or part of these data have been referred to the U.S. Census Bureau for verification.

4/ Less than 1/2 unit.

Source: U.S. Census Bureau.